

IN THE CLAIMS

1 1. A brake disk for use with a disk brake system having brake pads for
2 axially engaging the disk, comprising:
3 a disk member axially arrayed about a central axis and having an outer
4 rim and an inner rim, and an obverse face and a reverse face arrayed about a
5 disk plane, wherein

6 each said obverse face and reverse face is provided with circumferentially
7 alternating protruding segments and indented segments, said protruding
8 segments being adapted for physically engaging the brake pads.

1 2. The brake disk of claim 1, wherein

2 each said protruding segment includes a leading edge for gripping the
3 brake pad upon engagement.

1 3. The brake disk of claim 2, wherein

2 each said leading edge has an angle of incidence with the brake pad in the
3 range between $+45^\circ$ and -45° .

1 4. The brake disk of claim 1, wherein
2 each said indented segment is open to said outer rim and said inner rim
3 such that air flow is facilitated therethrough.

1 5. The brake disk of claim 1, wherein
2 each of said outer rim and said inner rim is scalloped in shape to provide
3 increased surface area for heat dissipation..

1 6. The brake disk of claim 1, wherein
2 each said protruding segment is circumferentially wider than the adjacent
3 indented segments.

1 7. The brake disk of claim 6, wherein
2 The circumferential width ration of said indented segments to said
3 protruding segments is in the range of 10% to 40%.

1 8. In a disk braking system for use in transrotary motion applications,
2 including brake pads for engaging the surface of a brake disk the improvement
3 comprising:

4 providing the brake pad engaging surface of the brake disk with
5 alternating protruding segments for engaging the brake pads and indented
6 segments for facilitating cooling.

1 9. The improvement of claim 8, wherein
2 each said protruding segment is circumferentially wider than the adjacent
3 ones of said indented segments.

1 10. The improvement of claim 9, wherein
2 each said indented segment has circumferentially width of less than 40%
3 of that of said protruding segments segments.

1 11. The improvement of claim 8, and further including
2 an irregularly shaped outer rim and an irregularly shaped inner rim such
3 that expanded surface area is provided to aid heat dissipation therefrom.

1 12. The improvement of claim 8, and further providing that
2 the opposing axial surfaces of the disk both include alternating protruding
3 segments and indented segments and the indented segments on one surface are

4 situated axially opposite protruding segments on the opposing surface.

1 13.The improvement of claim 8, wherein

2 each said protruding segment is circumferentially wider than the adjacent
3 ones of said indented segments.

1 14.The improvement of claim 8, wherein

2 each said protruding segment has a leading edge for engaging with and
3 gripping the surface of the brake pad.

1 15.The improvement of claim 14, wherein

2 Each said leading edge is adapted to engage the brake pad at a radial angle
3 of less than 45 degrees.